

BROOKHAVEN NATIONAL LABORATORY NATIONAL SYNCHROTRON LIGHT SOURCE

MEMORANDUM

DATE: 30 May 2000

TO: Sam Krinsky, Michael Hart, Richard Osgood, Peter Paul

CC: NSLS Management Group, FEL Project Team

FROM: William S. Graves, Richard Heese, Erik D. Johnson

SUBJECT: DUV-FEL Project Report; Period ended 26 May 2000

Work in Progress:

We did not run the machine at all last week because of problems with the chiller repairs. They were nominally completed on 26 May and the system was brought up on 30 May for our use. No further large interruptions in chiller availability are anticipated by Plant Engineering at this time. During the down time, a great deal of work on the modulators was completed including cleaning all of the PFN coils and adding two more capacitors to the system 'A' PFN to obtain a longer flat-top pulse for the gun RF. Various electrical work and testing was completed including checking the readbacks on the power supplies. We also connected the BPM cables on the sugar scoop monitors after accelerating sections 2 and 4 to be used as current monitors.

On Thursday XiJie Wang examined the gun tuning and found that the mode separation was essentially at the design value. This still leaves open to question the reason(s) behind the larger than anticipated beam spot just after the gun. When the machine is running and tuned up this will be one of the areas for further investigation.

The last of the 'scheduled due-date' items for the Accelerator Readiness Review was completed, slightly ahead of our June 1 commitment date. Several other items need to be addressed that depend on commissioning activities. The most obvious of these is the fault studies required to evaluate the effectiveness and adequacy of the shielding. They will resume when we obtain reliable measurements of the beam current.

Work Planned for Next Week:

Paul Emma of SLAC will be here to assist in tuning the accelerator and understanding the lattice and trajectory. The team from Hamamatsu will arrive on Wednesday or Thursday (depending on the vagaries of US Customs). We will suspend accelerator commissioning to devote the full attention of the laser system to examining the streak camera and its performance.

Management:

Turning the machine back on and tuning it up so we can continue commissioning are the principal activities for this holiday-shortened week.

